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CLAIMS:

1. A photovoltaic device, including a photovoltaic element including a plurality of layers, and an envelope, at least a portion of the envelope having a curved profile; wherein the photovoltaic element is comprised of layers of film and is formed on the inside surface of the envelope.
2. A photovoltaic device in accordance with claim 1, wherein layers of the photovoltaic element are of differing chemical composition.
3. A photovoltaic device in accordance with claim 1 or claim 2, wherein one or more layers of the photovoltaic element are formed within the envelope.
4. A photovoltaic device in accordance with claim 1, claim 2 or claim 3, wherein one or more layers of the photovoltaic element are formed on the envelope.
5. A photovoltaic device in accordance with claim 1, 2, 3 or 4, wherein the envelope forms a dome containing the device.
6. A photovoltaic device in accordance with claim 5, wherein the dome is substantially a hemisphere.
7. A photovoltaic device in accordance with claim 5 or claim 6, wherein the dome is mounted on a substrate forming a base of the dome.
8. A photovoltaic device in accordance with claim 1, 2 or 3, wherein the envelope substantially encapsulates the device.
9. A photovoltaic device in accordance with claim 8, wherein the envelope is in the form of a sphere.

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10. A photovoltaic device in accordance with claim 8, wherein the envelope is in the form of a polyhedron.
11. A photovoltaic device in accordance with claim 10, wherein 5 the photovoltaic element is formed on a face of the polyhedron.
- 5 12. A photovoltaic device in accordance with any one of the preceding claims, further including an electronic apparatus mounted within the envelope and being electronically connected 10 to the photovoltaic element, the photovoltaic element being arranged to provide electric power to the electronic apparatus.
- 6 13. A photovoltaic device in accordance with claim 12, the electronic apparatus including a transmitter, for transmitting 15 signals to a remote location.
14. A photovoltaic device in accordance with claim 12, the electronic apparatus including a transmitter for transmitting signals to other photovoltaic devices.
- 20 7 15. A photovoltaic device in accordance with claim 13 or claim 14 further including an antenna connected to the transmitter, the antenna being formed by a conductive region of the envelope.
- 25 16. A photovoltaic device in accordance with claim 13 or claim 14 further including an antenna connected to the transmitter, the antennal being formed by a conductive layer adjacent the photovoltaic element.
- 30 8 17. A photovoltaic device in accordance with claim 12 or claim 13, further including an antenna connected to the transmitter, the antenna including a conductive member extending outwardly from the envelope.

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- q - 19 preceding claim
18. A photovoltaic device in accordance with any one of claims 12 to 17, further including an energy storage device.
19. A photovoltaic device in accordance with claim 18, the energy storage device being in the form of a thin layers formed proximate the layers of the photovoltaic element.
- 11 preceding claim
20. A photovoltaic device in accordance with any one of claims 12 to 19, further including a sensor.
- 10 12 11
21. A photovoltaic device in accordance with claim 20, the sensor extending outwardly of the envelope.
22. A photovoltaic device in accordance with any one of claims 12 to 21, in the form of an individual module.
- 13 any preceding
23. A photovoltaic device in accordance with claim 22, in the form of a mote arranged to provide information about an environment.
- 20 14 13
24. A photovoltaic device in accordance with claim 23, the device being enclosed in a resilient cover.
- 15 13
25. A photovoltaic device in accordance with claim 23 or claim 24, having an outer shape which is aerodynamic.
- 16 any one of 13, 14 or 15,
26. A photovoltaic device in accordance with claims 23, 24 or 25, further including means for orienting the device.
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30 27. A photovoltaic device in accordance with claim 26, wherein the orienting means includes a predetermined centre of gravity of the device.

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28 A photovoltaic device in accordance with claim 26 or claim 29, wherein the orienting means includes a projection projecting outwardly of the device.
- 5 19 16
29. A photovoltaic device in accordance with claims 26, 27 or 28, the orienting means including an adhesive portion on an outer surface of the device.
- 10 20 16
30. A photovoltaic device in accordance with any one of claims 1 to N, the device being mounted on a substrate and being electrically connected to the substrate.
- 15 21 20
31. A photovoltaic device in accordance with claim 30, including a channel through the envelope to a conductive layer of the device and a conductor connecting the conductive layer to the substrate.
32. A photovoltaic device in accordance with claim 31, wherein the channel is lined with conductive material.
- 20 22 either 20 or 21
33. A photovoltaic device in accordance with claim 29, 30 or 31, wherein the substrate includes a grid of conductors and the photovoltaic device is electrically connected to the grid.
- 25 23
34. A photovoltaic device in accordance with any one of claims 30 to 33, wherein the substrate includes a depression, and the photovoltaic device is mounted within the depression.
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35. A photovoltaic device in accordance with any one of claims 30 to 34, the substrate including reflective means to reflect radiation incident on the substrate towards the device.

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36. A photovoltaic device in accordance with any one of the preceding claims, wherein the photovoltaic element is a thin film photovoltaic element.

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5 37. A photovoltaic device in accordance with claim 36, wherein the ~~like~~ film photovoltaic element is a Dye Solar Cell (DSC) element.

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10 38. A photovoltaic device in accordance with claim 37, wherein an internal electrode of the DSC element comprises carbon.

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39. A photovoltaic device in accordance with claim 37 wherein the device stores a reservoir of electrolyte to provide an electrolyte supply to an electrolyte layer of the DSC device.

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40. A photovoltaic device in accordance with any one of the preceding claims, a resilient material being provided within the device to secure elements of the device and provide mechanical rigidity.

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41. A mote arranged to provide information about an environment, the mote including a photovoltaic element and an electronic apparatus confined by an envelope, the photovoltaic element or the photovoltaic element being arranged to provide electric power to the device.

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42. A mote in accordance with claim 41, the photovoltaic element including a plurality of layers.

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43. A mote in accordance with claim 42, the photovoltaic element being a Dye Solar Cell element.

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44. A mote in accordance with claim 41, 42 or 43, being arranged to operate with a plurality of like motes.

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45. A photovoltaic array, including a plurality of photovoltaic devices in accordance with any one of claims 30 to 35, mounted on the substrate.

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~~46.~~ A method of manufacturing a photovoltaic device including the steps of forming a photovoltaic element from a plurality of layers of differing chemical composition on conducting core, and forming an envelope with at least a portion of the envelope having a curved profile.

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47. A method of manufacturing a photovoltaic device including the following steps:

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- Providing an envelope, at least a portion of the envelope having a curved profile, and
- Forming a photovoltaic element from a plurality of layers of differing chemical composition; the layers being formed on at least part of the surface of the envelope

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48. A method of manufacturing a photovoltaic device in accordance with claim 47, further including steps of placing inside the envelope at least the following components:

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- a transmitter,
- a sensor,
- an energy storage device;

Electrically connecting these components and forming an antenna on or adjacent to the surface of the envelope, the antenna being electrically connected with the transmitter.

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49. A method of manufacturing a photovoltaic device in accordance with claim 48, further including enclosing the envelope into resilient transparent cover.

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50. A photovoltaic device substantially as herein described with reference to the accompanying drawings.

5 51. A mote, substantially as herein described, with reference to the accompanying drawings.

52. A photovoltaic array, substantially as herein described with reference to the accompanying drawings.

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